

Photoelectric Reflex Sensor  
with Teach-in  
Operating Instructions

## Safety Specifications

- Read the operating instructions before starting operation.
- Connection, assembly, and settings only by competent technicians.
- Protect the device against moisture and soiling when operating.
- No safety component in accordance with EU machine guidelines.

## Proper Use

The WL4-3 / WLG4-3 photoelectric reflex sensor is an optoelectronic sensor and is used for detection of optical, non-contact detection of objects, animals, and people. A reflector is required for operation.

## Starting Operation

## 1 WL(G)4-3E\_\_\_ und WL(G)4-3F\_\_\_

D: dark-switching, output (Q) switches on if an object is in the light beam.

## WL(G)4-3P21\_\_\_ und WL(G)4-3N21\_\_\_

## WL(G)4-3P31\_\_\_ und WL(G)4-3N31\_\_\_

## WL(G)4-3P13\_\_\_ und WL(G)4-3N13\_\_\_

L: light-switching, output (Q) switches off if an object is in the light beam.

## WL(G)4-3P22\_0 und WL(G)4-3N22\_0

## Antivalent outputs

## WL(G)4-3P\_\_\_4 und WL(G)4-3N\_\_\_4

Output Q light-switching. Additional ET: Teach function per cable.

## WL(G)4-3E\_\_\_4 und WL(G)4-3F\_\_\_4

Output Q dark-switching. Additional ET: Teach function per cable.

2 Mount sensor using the threaded bush with M3 screws. Mount reflector at a right angle to the sensor according to reserve / range chart. Light spot must be clearly detectable on the reflector.

## 3 Sensitivity setting:

There are three operating modes:

a) **Glass mode: detection of transparent objects with automatic tracking of threshold switching:**

Sensor must have free view of reflector; no object may be in the light beam path. Keep teach-in button pressed down > 2 ... < 5 s – yellow reception LED lights. The sensor detects objects, which attenuate the light by at least 8 %. The switching threshold is adapted to the ambient conditions automatically (e.g., temperature drift & soiling).

b) **50 % Switching threshold without automatic tracking:**

Sensor must have free view of reflector; no object may be in the light beam path. Keep teach-in button pressed down > 8 s until yellow reception LED lights.

50 % switching threshold is set. Switching threshold is not tracked.

c) **Maximum sensitivity without tracking of the switching threshold:**

Sensor is directed into the open and not to the reflector. Keep teach-in button pressed down > 8 s until maximum sensitivity is set.

## Setting via cable (ET):

Connect white cable or PIN 2 to L+ (PNP) or to M (NPN) in line with the desired sensitivity > 2 ... < 8 s or > 8 s.

## 4 LED indicator blinks:

Sensor still works perfectly, but it is shortly before the switch-off threshold. Clean the lens surfaces, align the sensor/ reflector better or check the range according to the reserve / range chart.

## Maintenance

SICK photoelectric sensors do not require any maintenance. We recommend that you clean the external lens surfaces and check the screw connections and plug-in connections at regular intervals.

Reflexions-Lichtschanke  
mit Teach-in  
Betriebsanleitung

## Sicherheitshinweise

- Vor der Inbetriebnahme die Betriebsanleitung lesen.
- Anschluss, Montage und Einstellung nur durch Fachpersonal.
- Gerät bei Inbetriebnahme vor Feuchte und Verunreinigung schützen.
- Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie.

## Bestimmungsgemäße Verwendung

Die Reflexions-Lichtschanke WL4-3 / WLG4-3 ist ein optoelektronischer Sensor und wird zum optischen, berührungslosen Erfassen von Sachen, Tieren und Personen eingesetzt. Zum Betrieb ist ein Reflektor erforderlich.

## Inbetriebnahme

## 1 WL(G)4-3E\_\_\_ und WL(G)4-3F\_\_\_

D: dunkelschaltend, Ausgang Q schaltet ein, wenn sich ein Objekt im Strahlengang befindet.

## WL(G)4-3P21\_\_\_ und WL(G)4-3N21\_\_\_

## WL(G)4-3P31\_\_\_ und WL(G)4-3N31\_\_\_

## WL(G)4-3P13\_\_\_ und WL(G)4-3N13\_\_\_

L: hellschaltend, Ausgang Q schaltet aus, wenn sich ein Objekt im Strahlengang befindet.

## WL(G)4-3P22\_0 und WL(G)4-3N22\_0

## Ausgänge antivalent

## WL(G)4-3P\_\_\_4 und WL(G)4-3N\_\_\_4

Ausgang Q hellschaltend. Zusätzlich ET: Teachfunktion über Leitung.

## WL(G)4-3E\_\_\_4 und WL(G)4-3F\_\_\_4

Ausgang Q dunkelschaltend. Zusätzlich ET: Teachfunktion über Leitung.

2 Sensor unter Verwendung der Gewindebuchsen mit M3-Schrauben montieren. Reflektor gemäß Reserve- / Reichweitendiagramm rechtwinklig zum Sensor montieren. Lichtfleck muss deutlich auf dem Reflektor erkennbar sein.

# SICK

8015451.0513 CV

## WL4-3/WLG4-3

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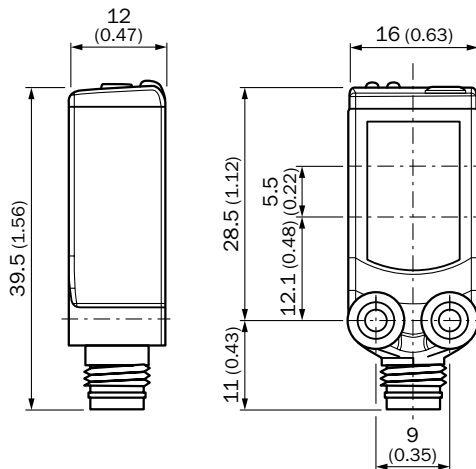
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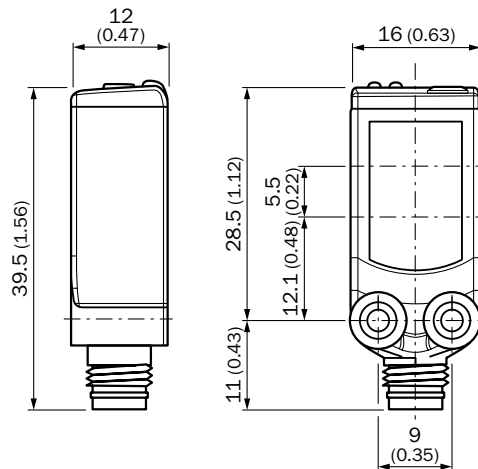
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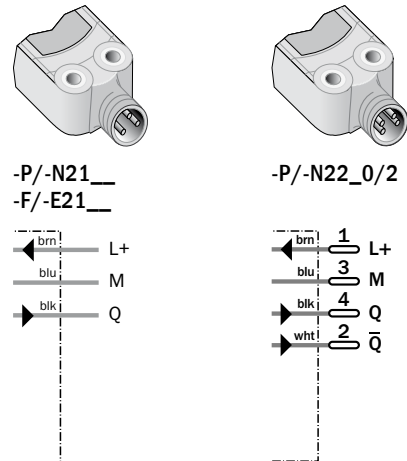
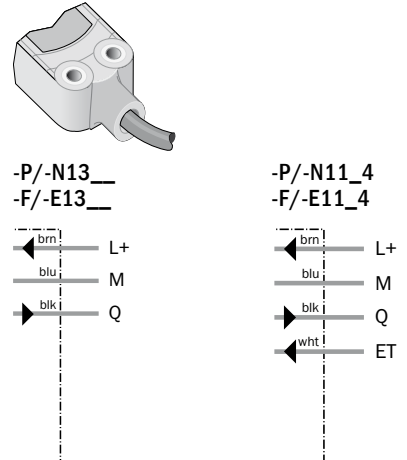
## A WL4-3



## WLG4-3



## B



## WL4-3 / WLG4-3

SR sensing range (with PL80A reflector)  
Light spot diameter / distance  
Supply voltage  $V_s$   
Output current  $I_{max}$   
Signal sequence min.  
Response time  
Enclosure rating  
Protection class  
Circuit protection  
Ambient operating temperature

Reichweite RW (auf Reflektor PL80A)  
Lichtfleckdurchmesser / Entfernung  
Versorgungsspannung  $U_s$   
Ausgangsstrom  $I_{max}$   
Signalfolge min.  
Ansprechzeit  
Schutzart  
Schutzklasse  
Schutzschaltungen  
Betriebsumgebungstemperatur

Portée RW (avec réflecteur PL80A)  
Diamètre de la tache lumineuse / Distance  
Tension d'alimentation  $U_s$   
Courant de sortie  $I_{max}$   
Signalfolge min.  
Temps de réponse  
Type de protection  
Classe de protection  
Circuits de protection  
Température ambiante

Alcance da luz RW (com refletor PL80A)  
Diâmetro do ponto de luz  
Tensão de força  $U_s$   
Corrente de saída  $I_{max}$   
Sequência min. de sinais  
Tempo de reação  
Tipo de proteção  
Classe de proteção  
Circuitos protetores  
Temperatura ambiente de operação

<sup>1)</sup> Limits  
Ripple max. 5 V<sub>pp</sub>  
Operation in short-circuit protected network: max 8 A  
<sup>2)</sup> A =  $V_s$  connections reverse polarity protected  
B = Outputs protected against short-circuits  
C = Interference pulse suppression

<sup>1)</sup> Grenzwerte  
Restwelligkeit max. 5 V<sub>pp</sub>  
Betrieb im kurzschlussgeschützten Netz max. 8 A  
<sup>2)</sup> A =  $U_s$ -Anschlüsse verpolsicher  
B = Ausgänge kurzschlussfest  
C = Störimpulsunterdrückung

<sup>1)</sup> Valeurs limites  
Ondulation résiduelle maxi 5 V<sub>pp</sub>  
Fonctionnement sous secteur protégé des courts-circuits à 8 A maxi  
<sup>2)</sup> A = Raccordements  $U_s$ , protégés contre les inversions de polarité  
B = Sorties protégées contre les courts-circuits  
C = Suppression des impulsions parasites

<sup>1)</sup> Valores limite/ondulação residual máx. 5 V<sub>pp</sub>  
Operação em rede protegida contra curto-circuitos máx. 8 A  
<sup>2)</sup> A = Conexões  $U_s$ , protegidas contra inversão de polos  
B = Sai das protegidas contra curto circuito  
C = Supressão de impulsos parasitas

## WL4-3 / WLG4-3

Portata RW (con riflettore PL80A)  
Diametro punto luminoso  
Tensione di alimentazione  $U_s$   
Corrente di uscita max.  $I_{max}$   
Sequenza segnali min.  
Tempo di risposta  
Tipo di protezione  
Classe di protezione  
Commutazioni di protezione  
Temperatura ambiente circostante

Alcance RW (con reflector PL80A)  
Diámetro / distancia de mancha de luz  
Tensión de alimentación  $U_s$   
Corriente de salida  $I_{max}$   
Secuencia de señales min.i  
Tiempo de reacción  
Tipo de protección  
Protección clase  
Circuitos de protección  
Temperatura ambiente de servicio

有效感距 RW (带反射片PL80A)  
光点直径  
电源电压  $U_s$   
输出电流  $I_{max}$   
信号流 min  
触发时间  
保护种类  
保护级别  
保护电路  
工作环境-温度

検出距離範囲 RW (リフレクタ PL80A 上にて)  
スポット径/距離  
供給電圧  $V_s$   
最大出力電流  $I_{max}$   
信号伝達時間 min.  
応答時間  
保護等級  
保護クラス  
保護回路  
動作周囲温度

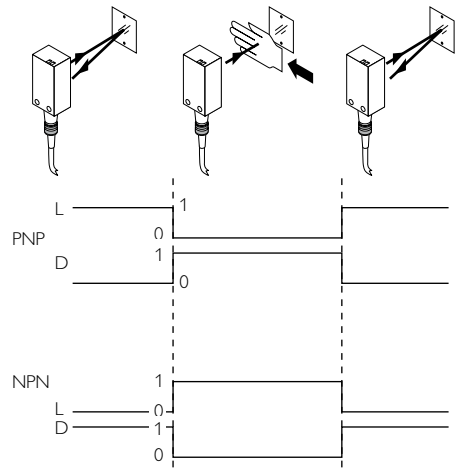
<sup>1)</sup> Valori limite ondulatione  
Residua max. 5 V<sub>pp</sub>  
Funcionamento in rete con protezione dai cortocircuiti max 8 A  
<sup>2)</sup> A =  $U_s$ -collegamenti con protez. contro inversione di poli  
B = Uscite a prova di corto circuito  
C = Soppressione impulsi di disturbo

<sup>1)</sup> Valores limite  
Ondulación residual max. 5 V<sub>pp</sub>  
Servicio en red a prueba de cortocircuito máx 8 A  
<sup>2)</sup> A = Conexiones  $U_s$  a prueba de inversión de polaridad  
B = Salida protegida contra cortocircuito  
C = Represión de impulso de interferencia

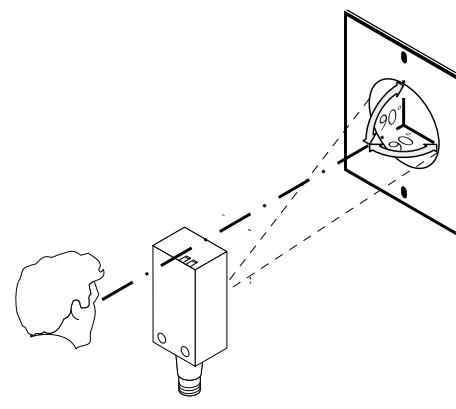
<sup>1)</sup> 級限値剩余波  
残度 max.5 V<sub>pp</sub>  
Servicio en red a prueba de cortocircuito máx 8 A  
操作電流：在防短路的网絡里，最大 8 A  
<sup>2)</sup> A =  $U_s$ -接头防反接  
B = 輸入输出防反接  
C = 消除干扰脉冲

<sup>1)</sup> 限界値：リップル 最大 5 V<sub>pp</sub>  
短絡保護された回路での使用最大 8 A  
<sup>2)</sup> A =  $V_s$  電源電圧逆接保護  
B = 出力回路逆接保護  
C = 干渉パルス抑制

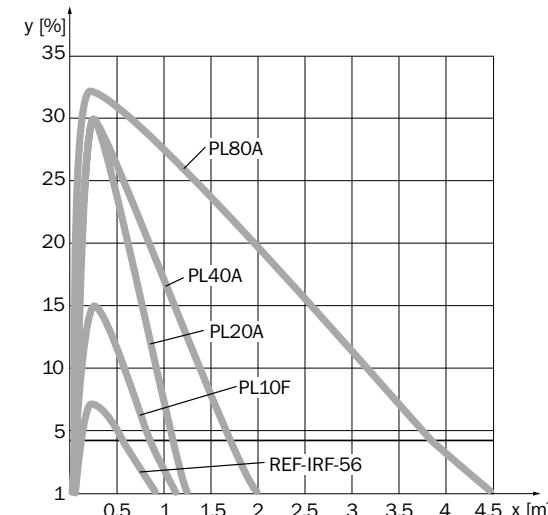
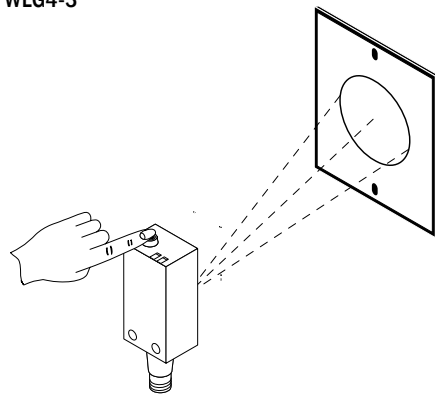
## 1



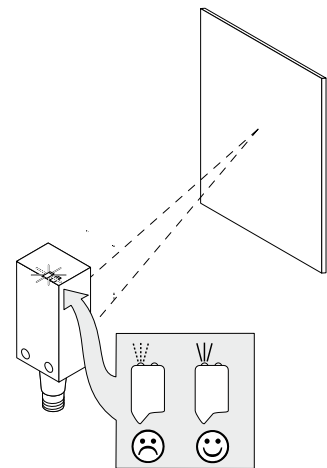
## 2



## 3 WL64-3



## 4



## Nota:

Sensori con un codice data < 1243 hanno un modo di apprendimento diverso!

## Por favor tenga en cuenta:

Los sensores con el código data < 1243 tienen un modo de teach-in diferente!

请您考虑到：

日期代码 < 1243 的传感器有不同的示教模式！

次の点にご注意ください：

データコードが 1243 未満であるセンサーは、ティーチインモードが異なります！

